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US MILITARY LOGISTICS MANAGEMENT, PRIVATIZATION, AND CONTRACTORS ON THE BATTLEFIELD. WHAT DOES THIS ALL MEAN?

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US MILITARY LOGISTICS MANAGEMENT, PRIVATIZATION, AND CONTRACTORS ON THE BATTLEFIELD. WHAT DOES THIS ALL MEAN?

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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ABSTRACT

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The Defense Department and US Military that faces today's threats are far different then the Defense Department of a decade ago. Since 1985 the military force structure was reduced by 38 percent, the force structure was reduced by 33 percent and DoD procurement programs reduced by 63 percent. In an effort to maximize its allotted budget DoD has significantly downsized its workforce, eliminated many government jobs and subsequently increased the number of contracts to civilian providers. This study discusses the impacts of privatization, outsourcing and contractors. This study describes the differences with each of these options. This study also assesses some of the benefits of these business practices compared to their inherent risks

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US MILITARY LOGISTICS MANAGEMENT, PRIVATIZATION, AND CONTRACTORS ON THE BATTLEFIELD. WHAT DOES THIS ALL MEAN?

Accepting the assumption that today's global security environment exceeds the capacity for efficient and effective Department of Defense (DoD) logistics management policy, procedures or practices the ultimate question becomes "where do we go from here?" Recent discussion has given rise to a repeated reference to the revolution in military affairs as well as a joint effort towards focused logistics. While progress in these areas has been realized it certainly was not occurring at the speed or extent expected by senior leaders. With the events of 11 September 2001 followed shortly thereafter by QDR 2001 all the rules for change became subject to review. This creates an exciting but high risk environment as the nation prosecutes a global war on terrorism while at the same time attempts to accelerate the process to transform United States military forces into a capabilities based force. This study will outline progress to date and describe potential options to facilitate and assist this process while remaining consistent with QDR 2001 guidance and operating within available resources.

QDR 2001 states the Department of Defense must transform its business processes and infrastructure to enhance its capabilities and to free up resources to support war-fighting and the transformation of military capabilities.¹

To accomplish this a Defense Department goal must be to streamline its existing organizational structure to take advantage of opportunities that the rapid flow of data and information present. Entire functions must be eliminated. Boundaries must be broken to accelerate change across the entire organization, promote cooperation, share information and institutionalize change throughout the Department of Defense. The Department of Defense must find ways to encourage and reward innovation and risk taking among war fighters as well as support personnel.

Specifically for the logistics community, the task is to remove layers that no longer provide added value. To accomplish this the Department of Defense has initiated efforts to:

- Streamline the overhead structure and flatten the organization;
- Focus Department of Defense "owned" resources towards excellence in those areas that contribute directly to war fighting;
- Modernize the Department of Defense wide approach to business information;
 and
- Consolidate and modernize the DoD infrastructure.

The Department of Defense must conduct a complete review of all its functions and begin to separate core competency and non core competency functions. This review process must determine whether a function is directly necessary for war fighting. The intent of this review is to separate the functions into three broad categories:

- Those directly linked to war fighting and best performed by the federal government. In these areas, the Department of Defense will invest in processes and technology to improve performance.
- Actions or processes indirectly linked to war fighting capability that can be shared
 by the public and private sectors. In these areas the Department of Defense will
 seek to define new methods of public private partnerships to improve
 performance.
- Tasks not linked to war fighting and best performed by the private sector. In these areas, the Department of Defense will seek to privatize or outsource entire functions or define new mechanisms for partnerships with private firms or other public agencies

Many of the previously mentioned areas have already been outsourced or shed as non core responsibilities, including privatization of military housing and the privatization of utility services for military installations. There are ongoing efforts in the areas of logistics management, privatization and contractors that present the Department of Defense the potential and opportunity to exploit success but also requires DoD to seriously consider where to accept or mitigate risk.

LOGISTICS MANAGEMENT:

Civilian corporations routinely conduct reviews of their business practices in the area of logistics management. Logistics management and business strategies have become a significant focus within the Department of Defense in an attempt to increase production flexibility and increase savings and value. With competing priorities and limited resources it is not surprising that the Department of Defense is focused on methods to improve the cost effectiveness of the United States Defense Industrial Base.² The call for the outsourcing and privatization of many maintenance, repairs, and supply processes in the military is the result of

the need to create a more effective logistics management model to conserve resources and create capital as spending stabilizes.

The privatization of depots as an example, present a number of important areas of concern when considering the application of business processes in government structures. These include the specificity of private and public sector competition already in place as well as the problems related to privatizing taxpayer subsidized military depots. In order to consider the proposed process of military privatization as it relates to logistics management, it is necessary to compare public and private sector roles, recognize the level of existing competition, consider whether the government should be participating in a competition against private sector business, and outline the potential risks in privatizing military depots. By comparing these issues against current figures regarding possible cost savings and the overall cost effectiveness of privatization in military depots, it is possible to recognize the benefits of this type of logistics management.

Over the past 12 years, the American military force structure has been drawn down and defense spending significantly reduced. This has resulted in reductions in personnel and equipment, base closures, and a reduction in the services and products created within the existing military budget.³ Recent studies by various government and private agencies suggest the forecast for United States military forces through the year 2010 will include more base closures, fewer aircraft and ships will be purchased and maintained, and there may be fewer in uniform across the board.⁴

What has occurred in the United States military is similar to the process that many companies have implemented in order to maintain cost effectiveness: downsizing. Recognizing that the Defense Department cannot accurately account for huge sums of money through mismanagement or the use of antiquated processes, the call for more effective systems in the midst of military downsizing has posed a considerable challenge in terms of logistical management and general operations. This process presents much potential cost efficiency by leveraging advances in technology to offset the reductions in the labor force.

Over forty percent of the budget for the Department of Defense is utilized for infrastructure expenses, those things that do not directly impact the "core competence" or the business of doing war, and can include everything from cafeteria workers and base accountants to the management of health-care plans.⁶ In recent years, attempts to reduce infrastructure expenditures have led to proposals regarding the outsourcing or privatization of these support mechanisms.⁷

Many other aspects of logistical management have been examined relating to the call for cost effectiveness in military management. These include everything from improving inventory control to outsourcing and privatizing repair and maintenance systems for aircraft, base upkeep, and large scale equipment repair. At issue is that logistical management and efficacy in tracking and maintaining operational support has not been demonstrated throughout the U.S. military.

For example, when army soldiers moved into the Persian Gulf to protect Kuwait, 25,000 to 40,000 containers of supplies, everything from clothing to arms and food, were shipped without appropriate markings or computer assisted tracking systems, and as a result, troops in the region spent days manually re-listing the contents of each box. Department of Defense officials have never denied that lax inventory control problems, including the failure to account for over forty Stinger missiles that were believed to have been deployed to Desert Shield / Desert Storm in 1991 suggests a complete lack of logistical management and the need for overwhelming improvements.

The General Accounting Office noted that serial number comparisons suggested that over forty missiles that were sent to the Gulf were not returned to the service depots or any other Army locations, suggesting that they were either still deployed, lost, or stolen. ¹⁰ This example suggests the worse case scenario of the current military process in place and underscores the need for more effective control measures. This need has increased the focus on possible outsourcing of military depots and potential application of civilian sector business practices in order to increase utility and safety.

The call to outsource the management of military depots as a part of military logistics management came after a number of studies suggested that inventory figures underscore claims that between eighteen to thirty-six billion dollars worth of unnecessary inventories were currently in the control of managers at military service depots, a level of excess that DoD found completely unacceptable. Though the premise of defense expenditures is based on the eventuality of war, the excesses in terms of cost management, logistics and sound business practices within this government design has only led to ineffectual responses towards the changing business and management focus.

PRIVATIZATION:

In 1995, the Department of Defense announced plans to allow private companies to run a number of the larger service depots in order to promote greater level of efficacy in light of the perceived mismanagement.¹² Many of the outsourced service depots were designed to

maintain and repair military vehicles, weapons and other equipment. In 1995, the government owned approximately twenty service depots and spent over twelve billion dollars a year on the maintenance of basic weapons systems and equipment, with varying levels of success.¹³

The privatization of some of the military service depots has led to some concerns regarding the rate at which the military is outsourcing as a cost saving attempt. This concern has encouraged comparisons between existing competitive private and public sector practices and the increasing privatization of government as it will impact on logistics management processes and planning in the future.

THE CHANGING DEPOTS AND DEFENSE WORKFORCE:

In the early 1990s, a focus on the possible effectiveness of outsourcing maintenance and repair work to private defense contractors was considered a major step in helping struggling shipyards and aircraft makers, while also addressing issues related to military cost effectiveness. In 1993 alone, the Navy, Air Force, Marine Corps and Army were all directed to increase repair work for private sector contractors to forty percent, in attempts to promote the long term security of businesses like Todd Shipyards and General Dynamics.

The Air Force, for example, has a number of repair depots nationwide, where aircraft are inspected, repaired and then re-inspected. In 1995 there were five full-operation depots run by the Department of Defense, located in Georgia, Utah, California and Texas. Reductions in the defense budget called for the closing of the California depot and the realignment of the Texas depot as cost containment efforts.

The Base Realignment and Closure Commission (BRACC), was created to evaluated the usefulness and viability of military depots and installations and pursued privatization efforts at a number of depots to improve the cost-effectiveness of operations. ¹⁸ Kelly Air Force Base in Texas was one of the first depots to face realignment by privatization, and BRACC compiled a plan for implementing the turning over of repair operations to a private company. ¹⁹ It was recognized that the necessity to maintain the base could only be supported if privatization efforts could be implemented and if a repair service could be provided without increasing government overhead or impacting relative cost figures. This call for privatization came in light of serious reductions in the Pentagon's procurement budget, which dropped from \$127 billion dollars in 1985 to just \$45 billion in 1993, and the recognition of a continuous decline of over five percent a year. ²⁰ This not only impacted prime contractors, but also caused considerable concern for subcontractors and small military suppliers. ²¹ Because many prime contractors only expected to have to convert no more than ten percent of their military business to civilian sales

within the scope of the declining military purchasing power, they became a significant focus when privatization measures were brought to the negotiating table.²²

Because of the competitive nature of the primary contractors relationship with aerospace and defense depots a belief on the part of the contractors developed that true competition with the government system would never really be implemented. In April, 1996, the Clinton administration announced plans to increase the portion of maintenance of military equipment, aircraft and vehicles that would be performed by private companies, from one third to one half.²³ Prior to this time, a law requiring competitive bidding and that a sixty percent share of these contracts be awarded to the government, limited the process of privatization.²⁴ By repealing this law, privatization supporters contended that greater savings could be realized.²⁵ While opponents suggested that this process would remove competition from the process, supporters suggest that state public bids are actually not valid because they do not represent the level of taxpayer subsidies involved, and therefore, the bidding process between public and private sector entities is almost a farce.²⁶ At the same time, this bidding process has stood as a significant determinant of the relationship between government contractors and outside private industry contractors, and underscores the often problematic nature of military management.

THE POTENTIAL BENEFITS OF PRIVATIZATION:

The issue of privatization is not as clear cut as it appears, and understanding the problematic nature of this kind of defense relationship within the scope of logistics management is fundamental to gaining an accurate understanding of the military support mechanisms now in place. There are specific problems related to privatizing service depot management, including determining how much the private sector should be paid for their tasks they complete, associated problems with overbidding resulting in attempts to raise the price; and intentional underbid attempts to secure potential long term business agreements.²⁷

The Air Force has focused significantly on the privatization of their depot maintenance, because of its application to five existing depots, and the concerns regarding cost-effectiveness and a lack of long-term planning perspectives related to cost-accounting and long-term outsourcing and privatization.²⁸ This is especially important when considering privatization of aircraft because they require daily maintenance, as well as inspection, repair and updating (or repair/refurbish/ remanufacture).²⁹

It is interesting that there is such complex discussion regarding the privatization of service depots when all of the aircraft currently in use in the United State's military were designed and created in the private sector. When the Air Force wants a new aircraft, the requirements are

specified and the Air Force turns to the private sector to design, test and manufacture it, while also maintaining initial responsibility for the success of the operation until the Air Force determines full operational capability and is willing to take over, approximately a year to two years after a usable aircraft has been flying.³⁰ Granted there is both Air Force and Defense Department supervision but the yeoman's load of the design and production works falls to the company manufacturing the aircraft. Because the Air Force generally does not want to have to relocate facilities to the region where an aircraft is built, often a private company will continue repair operations utilizing the same company or military personnel base.³¹

Outsourcing and privatization have been recognized as considerable cost-saving devices, and annual savings with estimates range from seven billion to thirty billion dollars throughout the Department of Defense, based on the Defense Department paying private firms rather than public employees.³² Though opponents suggest that privatization could result in a decrease in governmental oversight during the maintenance and upkeep of depots and large military equipment, the depots outsourced since the mid 1990s have not demonstrated any evidence of this kind of a problem.

In recent political action, the Department of Defense supported a bill that would shift Air Force maintenance work back to the last three government-owned depots in attempts to address issues surrounding the competitiveness of privatized maintenance and service depots, and the Defense Department desire to reinvest in the competitive market that has had considerable benefits for many private companies.³³ Though there appears to be a number of benefits that can be derived from the privatization of military logistics management, it is also evident that the government has differing perspectives regarding the benefits and the privatization of service depots in general.

The United States has already begun the process of privatizing repair work currently being performed at military service depots, and only three remaining government owned depots have been utilized in the past two years. The problem with the competitive arena that existed predominantly within the realm of the service aspects of these depots is that the bidding process for jobs was essentially one-sided. Because service depots are subsidized by taxpayer dollars, the bidding process appears to have less to do with business and more to do with politics and encouraging a level of competitiveness. Even in light of considerable calls for privatization of government military repair jobs and maintenance in service depots, it appears that government action is focusing once again away from private sector bidding and contracting and towards both privatized control by single firms and increasing governmental ownership and service provisions. Though privatization is often touted as a major cure for financial issues and the need

to maintain jobs, recent perspectives regarding the long-term efficacy of this kind of interdependent operation has again come under scrutiny.

CONTRACTORS ON THE BATTLEFIELD:

Should the United States consider using contractors to help the military wage war? This question no longer requires an answer. Contractors have accompanied the military into war zones and even into battle. During the Gulf War, U.S. contractors maintained equipment and provided technical expertise alongside deployed U.S. military personnel; routinely flew on joint surveillance, target attack radar system aircraft;34 and even moved into forward areas inside Iraq and Kuwait with combat forces.³⁵ Overall, ninety-two hundred contractors and fifty-two hundred civilians deployed to support 541,000 military personnel.³⁶ During Operation Just Cause, eighty two contractors deployed to Panama to support aviation assets.³⁷ In fact, civilian contractors have quietly taken part in such recent and varied military-run operations as those in Somalia, Macedonia, and Rwanda, as well as those occasioned by Hurricanes Andrew and Iniki and numerous other domestic and international natural disasters. Contractors have a long history of supporting the military. As far back as the Revolutionary War, General George Washington employed civilians to move and deliver military goods. Civilians performed logistics functions during both World Wars, Korea, Vietnam, as well as during most U.S. military led humanitarian aid missions.³⁸ Currently, contract employees provide food service and other base support functions, both stateside and in forward deployed locations throughout the world. They fulfill roles in construction, laundry service, security, communications, sanitation, recreation, and work as maintainers and translators and do so in steadily increasing numbers.³⁹ During Operations Desert Shield and Desert Storm, one in fifty Americans deployed in-theater was a civilian. By the time of the North Atlantic Treaty Organization's peacekeeping operation in Bosnia, that number had grown to one in ten. 40 With this practice now common the issue may be more correctly examined from the standpoint of, "what is the best way to utilize contractors in combat?" Although each of the U.S. military services is actively trying to answer this extremely difficult, often politically charged, and multifaceted question, the process often produces many more questions than answers. Insights, answers and recommendations to assist in answering these questions will be addressed later in this study.

THE PRINCIPLES OF CONTRACTOR SUPPORT:

One must carefully examine this fundamental military doctrine—replacing soldiers in theaters of operations during combat with civilians. As was the case with the introduction of the

tank and airplane into warfare, the emergence and development of any new military doctrine or strategy of waging war brings with them new challenges and potential risks. According to Joint Publication 4-0, *Doctrine for Logistics Support of Joint Operations*, "the war fighter's link to the contractor is through the contracting officer"—not the commander. One can group the many risks associated with replacing soldiers, sailors, airmen, and marines with contractors into three main categories of questions: First, how will using contractors affect mission accomplishment? Will it deter an opposing force, or will it create an easily identifiable Achilles' heel? Second, will using contractors extend the amount of time needed to complete the mission? Will American forces have to deploy at the slower pace of their contract support? Will the mission and the commander drive the tempo of decisions in battle, or will previously agreed upon contract limitations—which may not fit the current combat situation—act as the driving force? Third, will using contractors place our service personnel at greater risk of losing their lives in combat? These are the questions that must be answered to prevent catastrophic failure that would result if the contractor concept crumbles under the stress of sustained combat operations.

What has led the military to head down a path so potentially great or dangerous? The simple answer is money. Immense budgetary pressures from within and outside the Department of Defense demand more bang, not for the same, but for significantly fewer bucks. Another considerable advantage for deploying contractors is to support new systems that have not been widely deployed throughout the Defense Department, for example the current use of all terrain vehicles, commercial vehicles and generators in Operation Enduring Freedom. Since the end of the cold war, the Department of Defense has downsized by over seven hundred thousand active duty military personnel, while at the same time deploying nearly five times more frequently. Furthermore, the Defense Department has reduced total civilian-end strength by over three hundred thousand since 1989. Military spending programs have undergone drastic cuts, funding for modernization has become increasingly competitive with other internal service programs, and military infrastructure and readiness have steadily declined since the previous decade. To solve these problems, Congress ordered the Defense Department to develop ways of cutting costs without cutting services. In response, the military has been forced to reengineer and turn to competitive sourcing, and privatization of increased numbers of military functions.

Is the use of contractors the right answer? What makes this option attractive? Again, the answer is money. According to General Bill Tuttle, U.S. Army, Retired, president of Logistics Management Institute, based in Washington, D.C., the Army can cut logistics costs by up to twenty percent by using civilian contractors.⁴⁵ Although the amount of actual savings produced by privatizing support and logistics services is debatable, even the most conservative estimates

indicate that the Department of Defense can save a significant amount of its total obligation authority by contracting out most of its support functions and a large part of its logistics manpower.

In at least one area, using civilian contractors offers more flexibility than deploying service personnel into combat areas. During the planning for the Bosnian peacekeeping operation, President Bill Clinton promised to limit the number of deployed service members to fewer than twenty thousand, his authority to deploy over two thousand additional civilians was not limited giving him the political flexibility to support the operational force with additional manpower. Similarly, during the Vietnam War, President Lyndon Johnson avoided congressionally mandated troop ceilings by employing over eighty thousand civilian contractors during the most intense part of the war. Regardless of the potential ethical questions of skirting U.S. law by choosing to count involved civilians differently than uniformed service members, this option provides the potential to employ during a domestic or international politically sensitive situation. Given the recent tendency of the United States to fight as part of a multinational coalition, this additional flexibility becomes important.

DEPARTMENT OF DEFENSE POLICY – CONTRACTORS ON THE BATTLEFIELD AS IT APPLIES TO THE ARMY.

As a matter of policy the DoD allows the use of U.S. contractors to augment the support of U.S. Army operations and/or weapon systems. This policy applies to all U.S. Army elements and Department of the Army contractors. Likewise, it is applicable wherever U.S. Army elements are stationed or deployed during peacetime, war, or Military Operations Other Than War (MOOTW)⁴⁸.

Lessons learned from recent military operations, including Operations Joint Endeavor and Desert Storm, indicate contracting and outsourcing may be effective Combat Service Support force multipliers. They can increase existing capabilities, provide new sources of supplies and services, and bridge gaps in the deployed force structure. In the event of emergency or contingency operations, contractor personnel may be required to perform services in a theater of operations. With this increased emphasis on the use of contractors comes the need to identify the doctrine, policies and procedures affecting the use of civilian contractors.

Civilian contractors may be employed in Areas of Operations (AO), as required, to support U.S. Army operations and/or weapon systems. Generally, civilian contractors will be assigned duties at Echelons-Above-Division (EAD). Should the senior military commander determine that their services are required at lower echelons, contractors may be temporarily deployed as far forward as needed, consistent with the terms of the contract and the tactical situation.

Command and control with an AO will be executed by the military Chain-of-Command, which begins with the Theater Commander and extends to the lowest level of command responsible for personnel safety and mission accomplishment. For contractor personnel, command and control is dependent upon the terms and conditions of the contract. The Contracting Officer (KO) or the KO's designated representative(s) is the appointed liaison for monitoring contractor performance requirements and will ensure that contractors move materiel and personnel in accordance with the combatant commander's plan. In the event a contract's scope of work must be changed, the contract must be modified. The KO is the only government official with the authority to modify a contract.

Contractors are required to perform all tasks identified within the Statement of Work (SOW) and all other provisions defined within the contract. Contractors will comply with all applicable U.S. and/or international laws. During a declared war, civilian contractors accompanying the U.S. Army may be subject to the Uniform Code of Military Justice (UCMJ).

When U.S. contractors are deployed from their home stations, in support of Army operations/weapon systems, the Army will provide or make available, on a reimbursable basis, force protection and support services commensurate with those provided to DOD civilian personnel to the extent authorized by law. These services may include but are not limited to non-routine medical/dental care; mess; quarters; special clothing, equipment, weapons or training mandated by the applicable commander; mail, and emergency notification. Planning must be accomplished to ensure agree upon support to contractors is available to the responsible commander.

The following must be considered during the negotiating and drafting of any contract that requires the employment/deployment of civilian contractors to support U.S. Army operations/weapon systems:

- Areas of deployment (to include potential hostile areas) and their associated risks.
- Physical/Health limitations that may preclude contractor service in a theater of operations.
- Contractor personnel reporting and accountability systems to include plans to address contractor personnel shortages due to injury, death, illness, or legal action.
- Specific training or qualification(s) that will be required by civilian contractors to perform within a theater of operations, e.g. vehicle licensing, NBC, weapons.
- Reimbursement for government provided services, e.g. medical/dental.
- Interface between government and contractor Management Information Systems (MIS).

- A plan to transition from peacetime operations to operations during conflict, war, and/or MOOTW, and a subsequent plan to transition back to peacetime.
- A plan to transition mission accomplishment back to the government if the situation requires the removal of contractors.
- Preparation for Overseas Movement (POM), Points of Embarkation/Debarkation for U.S. contractors, deployment/re-deployment into/from theater, and deployment of all contractor personnel through the specified CONUS Replacement Center.
- When Status of Forces Agreements (SOFAs) do exist, they may not specifically address the status of contractor personnel. Contractor personnel status will depend on the nature of the specific contingency operations and those applicable SOFA provisions.

Contractor employees accompanying U.S. Armed Forces may be subject to hostile action. If, captured, a contractor's status will depend upon the type of conflict, applicability of any relevant international agreements, and the nature of the hostile force. The full protections granted to Prisoners of War (POWs) under the Geneva (1949) and Hague (1907) Conventions apply only during international armed conflicts between signatories to those conventions. Accordingly, these conventions are generally non-applicable during MOOTW. Therefore, contractor employee protection during MOOTW will depend on the specific circumstances of an operation. When the United States is a participant in an international armed conflict, contractors are entitled to be protected as POWs if captured by a force that is a Geneva/Hague Convention signatory. To ensure proper treatment, contractors will be provided with a Geneva Conventions (DD Form 489) or similar Identification Card.

U.S. contractor employees deployed to a theater of operations to perform public work under a contract (or subcontract) with the United States may qualify, if injured or killed while deployed, for Workers' Compensation under the Defense Base Act depending on the specific circumstances of incapacitation and the precise nature of the work being performed.

RISK ASSESSMENT:

What are the possible downsides of going to war with civilians? One of the most obvious is the loss of flexibility. A commander's freedom and his ability to improvise or adapt quickly through tactics, employment of weapons, and deployment of personnel have long been considered essential to victory in combat. A contract—a legal, binding document—even when written with the best of intentions, cannot cover every possible contingency in advance. To pause during wartime, no matter how briefly, to rewrite or renegotiate a contractor's obligations would severely limit a commander's ability to accomplish the mission. Writing comprehensive contracts that take into account every possible combat situation will become extremely

important, thus may eventually require every field commander to not only study operational art but art of writing contracts, and contract law itself. Anything less will place both the commander and his or her command at risk.⁴⁹

As this trend toward privatization increases in popularity, negotiating and working with a single contractor having a large number of employees should prove easier than managing many contractors having only a few employees each. 50 Today, the military services negotiate many small contracts yearly, but as the Defense Department increases its expertise and becomes more familiar with both contractors and the contract process, a natural selection process will eliminate the poor performers. The Department of Defense will not rehire contractors who provide poor service but will send more government business to successful contractors. This could even narrow the contractor numbers or create mergers of smaller successful contractors into larger operations. Finally, using contractors may permit the Department of Defense to eventually forget one of the accepted precepts, simply that it takes eight years to gain eight years of experience. In terms of "growing your own" soldiers, sailors, airmen, coastguardsmen and marines, this is true, but the Defense Department can hire contractors at whatever experience level it requires. If the Army, for example, needs to hire four hundred technicians with 10 or more years of experience in maintaining rotary-wing aircraft, it can contract for exactly that. Contractors can provide expertise on a case-by-case basis, without the cost of training, housing, and paying individuals for the previous ten years.⁵¹ Even in cases where some of these individuals have received their training and experience in the military the military continues to benefit from that sunk cost without reinvestment of additional training, housing, and pay dollars to achieve the same experience level.

In past years, the Department of Defense took pains to make sure that the bulk of its weapon-system expertise remained based in uniformed military personnel and Defense Department civilians. Department of Defense Directive 1130.2, Management and Control of Engineering and Technical Services, now rescinded, required the military to quickly become proficient in maintaining and employing new systems, while limiting contractor support to just one year. In fact, Congress now requires contractor support for four years for new weapon systems and for the lifetime of noncritical systems.⁵²

THE QUESTIONS OF ROLES AND RESPONSIBILITIES:

Many questions remain unanswered about how we will integrate contractors into combat operations in these new roles. Since contractors are legally classified as noncombatants, will they require protection by military forces, or will their presence drive changes to the

internationally recognized—although not always followed—laws of armed conflict? This problem becomes especially difficult to solve when the threat is nuclear, biological, and/or chemical. International law such as the Geneva Convention do recognize the necessity of civilians support for combat forces, civilians are regarded to hold only noncombatant roles that keep them out of direct engagement with enemy forces. Although the world community generally recognizes an international legal precedent for civilians to provide support during war, advances in weapon systems and changes in war-fighting strategies have blurred the lines between support and combat, combatant and noncombatant, and civilian and soldier.⁵³ An additional problem resides in the "no looking back" nature of contractor support, especially when it comes to military force structure. If, after a five or ten year trial period, contractor support on a large scale does not prove successful, the military will find itself unable to instantly grow and train mid- and upperlevel managers with the same expertise and experience of the contractors employed for the trial period within the enlisted and officer ranks. It will take close to an entire career of twenty years before the military can regain the capability now resident in its personnel. In other words the captain or major with ten to thirteen years of experience may be a Lieutenant Colonel or Colonel.

Other challenges also present themselves. How will the military determine that contractors can meet their responsibilities, especially during smaller scale contingencies or peacetime? An inability to perform during combat or actual deployment may become quickly and painfully apparent, but problems with contractor readiness may prove harder to detect prior to actually deploying into combat. Under current Department of Defense directives, the military continuously monitors the readiness of its units for combat operations. Will contractors have to agree to inspections or reporting that evaluate this same level of preparedness? Who will do these inspections, and how will they conduct them? What will happen when a contractor who receives an unsatisfactory rating challenges this finding in court?

The issues presented in the previous paragraph are faced today by commanders at all levels. DoD and Service policy prescribe guidelines but the true challenge is implementation. In the following paragraphs this study will present several practical examples and solutions to successfully implementing current policy.

CONTRACTORS ON THE BATTLEFIELD - A PRACTICAL EXAMPLE.

Until this point this study has developed the conceptual issues to logistics management, privatization and the use of civilian contractors. This study offers numerous issues for use as planning considerations but ultimately all planning must translate into tactical outcomes.

The intent of this study from here forward is to provide examples, insights and recommendations of the use of contractors on the battlefield today in accordance with prescribed policy and doctrine. The location for the practical example is the Balkans. The supported unit is The Army. The primary civilian contractor is Brown and Root. Brown and Root Services, a Houston-based contractor, provides for The Army everything from breakfast to spare parts for tactical vehicles⁵⁴.

Brown and Root provides services to The Army under the largest logistics contract yet awarded in the rapidly growing market for supporting soldiers overseas. The service contract has paid Brown and Root \$2.2 billion since troops were first sent to Bosnia in 1995 and covers tasks as diverse as the duties soldiers perform on the NATO peacekeeping mission.

In the Balkans paying contractors to manage motor pools and build barracks frees up soldiers for combat and support missions. Additionally, with troops rotating in and out of the Balkans every six months, a permanent civilian contractor workforce offers institutional stability and experience that soldiers cannot gain during their half-year tours.

A recent comparison has shown the use of contractor support to soldiers on the rise. Some 5,200 contractor employees accompanied the 541,000 troops who fought in the Persian Gulf War. That's one contractor for every 100 or so military service members. In the Balkans, the ratio has risen to almost one and one-half contractors for every soldier with more than 12,000 contractors supporting slightly more than 9,000 soldiers.

The Defense Department's 2001 Quadrennial Defense Review suggests the contractor-to-soldier ratio will continue to rise and that contracting out battlefield services will become as common as hiring private companies to build tanks. This practice in the Balkans is consistent with the QDR 2001 language "Only those functions that must be done at DoD should be kept at DoD."

In terms of cost the General Accounting Office found in September 2000 that more than 10 percent of the money Defense has spent in the Balkans has been paid to contractors for battlefield support. Of the \$13.8 billion spent on Balkans peacekeeping operations from 1995 through March 2000, more than \$2 billion went to support service contracts, GAO reported. "The Department of Defense has increasingly relied on contractors rather than soldiers to provide some services in the Balkans as force level ceilings have been reduced," according to the report, "Army Should Do More to Control Contract Cost in the Balkans" (NSIAD-00-225).

William Tuttle, a retired Army general who, until recently, headed the Logistics

Management Institute in McLean, Va., says that in addition to increasing the ratio of contractors to service members, the military services are managing their contracts with battlefield support

firms differently. Instead of hiring hundreds of companies, as they did in Vietnam and the Persian Gulf, the services have found it easier to make a single firm responsible for all support. "The tasks are so similar that having one person in charge makes accountability much easier," Tuttle says. This practice significantly aids The Army in its role to provide oversight of the contractors and contracts.

The Army, Air Force and Navy each have indefinite-delivery, indefinite-quantity (IDIQ) contracts for support services and can issue work orders to pre-approved contractors as needs arise. The contracts proliferated as a result of mid-1990s procurement reforms designed to allow agencies to purchase services more quickly. With thousands of soldiers moving in and out of the Balkans annually, the Army has been the only service to widely use IDIQ contracts for battlefield support. Again this helps to reduce the time and administrative burdens in implementing contractor support.

One benefit when using contractors to establish a lodgment or forward operating base is contractors often hire local workers who can establish infrastructure much more quickly and at a lower cost than can soldiers. As the Army seeks to become more mobile it makes the option of reducing the uniformed logistics footprint with contractors more likely.

This trend will likely continue with the awarding of The Army's five-year, \$2.2 billion Balkans Sustainment Contract. It has been dubbed "the mother of all service contracts," by the Contract Services Association of America, a government contractors association in Washington. The Balkans contract award has its roots in the Army's first IDIQ contract for global logistics support, the Logistics Civilian Augmentation Program(LOGCAP). Under that five-year umbrella contract, awarded to Brown and Root in 1992, the contractor planned and provided logistics support for Army contingency operations throughout the world. LOGCAP was used first in 1992 in Somalia, where Brown and Root earned \$62 million for building and maintaining Army base camps. Just two years later in Haiti, Brown and Root more than doubled its Somalia earnings, making \$133 million building bases and providing other support to about 18,000 service members.

Those early contingency operations showed the value of LOGCAP, but it was not until troops were deployed to the Balkans in 1995 that contractors truly became a fixture on the post-Cold War battlefield. Since then, Brown and Root has employed between 5,000 and 20,000 contractors to build and operate bases and perform dozens of other support functions for as many as 20,000 soldiers carrying out peacekeeping operations in the former Yugoslavia. By 1997, when the initial LOGCAP contract expired, the Army awarded the Balkans Sustainment Contract, a single IDIQ pact that runs through 2004.

In 1997 The Army awarded a separate LOGCAP contract for contingency operations outside the Balkans. DynCorp of Reston, Virginia, was awarded that five-year pact. Worth just a fraction of the Balkans deal, the contract has focused largely on planning for contingency operations. DynCorp has deployed some contractors to provide support work in East Timor and more recently in Central Asia for anti-terrorism operations. In December, the Army announced Brown and Root had been awarded the service's latest LOGCAP contract, a ten year pact for worldwide combat support.

An interesting recent change to how The Army operates in theater with contractors is the force reception process in the Balkans. When soldiers first step off airplanes in Kosovo, they are met not by their commander, but by a Brown and Root civilian worker who tells them where they can pick up their gear and assigns them to their barracks. Brown and Root has become the primary support and service support provider for troops in the region. At Camp Bondsteel, Kosovo, with 3,600 troops the Army's largest base in the Balkans, Brown and Root's work has included:

- Building nearly 200 dormitory-style barracks in less than ninety days.
- Providing 600,000 gallons of water a day and generating enough electricity to sustain a city of 25,000 people.
- Running a supply center with about 14,000 product lines.
- Washing 1,200 bags of laundry and cooking and serving more than 18,000 meals a day.
- Operating ninety-five percent of the Army's transportation, including rail lines and airfields.

Maximum use of a Host Nation workforce is also employed. Approximately 5,000 of the company's 5,500 workers in Kosovo are local residents, making Brown and Root Kosovo's largest employer. The remaining workers are either U.S. or British residents who serve as managers or craftsmen. Most are former service members with experience supporting deployed troops.

Local workers are paid in accordance with local wages, which usually range from \$1 to \$3 an hour. This may seem low but the wages are consistent with similar wages for similar work within the region. If the wages were inflated the local economy would over inflate proportionally.

To perform some one-time tasks Brown and Root also has hired about two dozen subcontractors in the region. For example, it hired subcontractors to build the perimeter fence around Camp Bondsteel, but Brown and Root maintains its own firefighting staff for the camp.

A primary concern addressed previously in this study was oversight or performance management of the contractor. The Defense Contract Management Agency, which annually oversees 325,000 acquisition contracts valued at \$825 billion, applies the same approach to battlefield support contracts that it uses to oversee the procurement of fighter planes. Typically, the agency sends contract specialists into Defense program offices and contractor manufacturing facilities to monitor contracts. For battlefield support contracts, DCMA deploys teams to each region to ensure that troops on the ground are getting what they need.

The agency now has a team of twenty-one military and civilian workers based in the Balkans to perform quality assurance, property management and contract management duties.

To ensure quality, DCMA interviews soldiers to gauge customer satisfaction, reviews the quality of finished services and conducts random checks of contractors' procedures to ensure they are following contract guidelines. DCMA immediately discusses any concerns about service quality with the contractor. "The majority of findings noted have been minor and, upon conclusion of discussion [with Brown and Root], corrected on the spot," according to a report by Army Major Arthur Spenard, a team leader for DCMA in the Balkans from February to August 2001.

DCMA audits property books and other records to monitor the more than \$600 million worth of government equipment Brown and Root uses in the Balkans. Brown and Root "consistently maintained high levels of property accountability," Spenard says. Additionally, DCMA verifies the need for new work and services, making sure proper approvals are in place and costs are reasonable before contractors begin work. "It's very easy for troops to request something of a contractor, but it's up to DCMA to ask whether it really is necessary," says Navy Lt. Cmdr. Casey Burns, who recently completed a tour of duty as part of a DCMA contracting team in the Balkans. This system of checks and balances helps reduce the concerns by commanders for the potential of misuse or contract fraud.

The Balkans pact is a performance-based contract that allows the contractor to earn extra fees for meeting and exceeding specific goals. Every four months, Brown and Root is eligible for a performance bonus. The quality of contractor services is evaluated in three areas:

- Performance.
- Cost controls and funds management.

Coordination, flexibility and responsiveness.

The Army, DCMA, and Brown and Root participate in the quarterly reviews, but feedback from soldiers receiving the services carries the most weight during evaluations. If minimum performance goals are met, Brown and Root receives a bonus of one percent of the cost of providing that service, but if it exceeds the minimum, the company can receive a bonus of up to eight percent of the service cost.

All reports to date indicate that using contractors on the battlefield is a viable alternative to deploying soldiers to provide support. The essential task to making this work is having contract monitors in the field is critical.

This system of checks and balances for contract performance has not been perfect. A recent report from the Navy says there have been cases of "contractor extravagance" and Brown and Root must be reminded to keep costs down. The example provided was contractors were replacing railings and sidewalks more frequently than needed and were installing expensive wooden railings. After DCMA raised concerns, Brown and Root agreed to use less expensive supplies and make upgrades less frequently.

CONTRACTORS ON THE BATTLEFIELD SUMMARY:

The sheer size of contractors' support, their proximity to the battlefield, and the criticality of their contribution to mission accomplishment make this issue so important. Cuts in both uniformed and Defense Department civilian personnel, government pressure to privatize or outsource work traditionally performed by the military, and a growing need for contractors to maintain increasingly sophisticated weapon, logistics, and communications systems have forced the military services to use contractors to accomplish the mission. Using contractors on the battlefield seems the optimal solution to this difficult task.

RECOMMENDATION:

The use of innovative logistic management processes, privatization, and contractors on the battlefield provides a complex set of problems in the near-term and long-term future for the Defense Department. Recent examples have shown promise is all three areas. To build upon these initial successes the Defense Department must approach each decision with a set of strategic goals from which each decision and associated risk should be measured. Most important is to keep those functions that are inherently governmental clearly defined and always performed by the government. The strategic policies necessary for continued progress are:

- First, develop the basic strategy. The Department of Defense should define a capstone strategy that ensures the maintenance of essential defense industrial capabilities. In those cases in which inadequate demand may force reductions below the minimum desired set of competitors or threaten the loss of critical capabilities this strategy must permit innovation. As a result the Defense Department trades some cost efficiencies for strategic effectiveness without increasing risk.
- Define the "inherently governmental" functions. Government has an enduring role in supporting the maintenance of a robust science and technology base and funding the kinds of long-term R&D programs that produced the breakthrough capabilities that have marked the last half of the 20th Century. These functions must be defined.
- Shedding the non core functions that relate to war fighting. Many of the routine functions
 performed by the Defense Department such as travel, legal services, medical services
 and even many supply, administrative and support functions, are available from
 commercial suppliers, which can provide them more efficiently and at less cost.

These basic rules will help guide the Defense Department through Transformation in the most effective and efficient manner.

Word count = 7970

ENDNOTES

- ¹ Quadrennial Defense Review Report, September 30 2001
- ² J. Fuller, J. O'Conor, R. Rawlinson, and K. Murphy, K. (1993, May-June). Tailored Logistics: The Next Advantage. <u>Harvard Business Review</u>, vol. 71(3), pp. 87-98.
- ³ Anonymous (1997, May). Adjutants or Accountants? <u>The Economist</u>, vol. 342(8015), pp. 23-24.
 - ⁴ Ibid. 24
 - ⁵ lbid. 24
 - ⁶ Ibid. 24
 - ⁷ Ibid. 24
- ⁸ Anonymous States (1995, February). Cargo 54, Where are You? Just-in-Time Logistics. <u>The Economist</u>, vol. 334(7901), pp. 73-74.
- ⁹ K. Barrett, and R. Greene, (1995, October). Logistics. <u>Financial World</u>, vol. 164(22), pp. 56-57.
 - ¹⁰ Ibid, 56
 - ¹¹ Ibid, 56
 - ¹² Ibid, 57
 - ¹³ Ibid, 57
- John Davies, (1993, December). Pentagon Repair Work Going to Private Sector. <u>Journal of Commerce and Commercial</u>, vol. 398(28128), pp. 1B.
 - ¹⁵ Ibid., 1B.
- ¹⁶ Roger Ford, (1995, December). <u>Privatizing Air Force Repair Depots and The Influence of SPC. IIE Solutions</u>, vol. 27(12), 00. 23-27.
 - ¹⁷ Ibid, 23
 - ¹⁸ lbid, 23
 - ¹⁹ Ibid, 27
- ²⁰ Anonymous States (1993, October). Still Waiting for the Bang. <u>The Economist</u>, vol. 329(7831), pp. 69-70.
 - ²¹ Ibid, 69

- ²² lbid. 70
- ²³ Pat Towell, and Mark Kehoe, (1996, April). Plan to Privatize Depots' Work Faces Stiff Resistance on Hill. <u>Congressional Quarterly Weekly Report</u>, vol. 54(14), pp. 939-940.
 - ²⁴ lbid, 939
 - ²⁵ Ibid, 939
 - ²⁶ Ibid. 940
 - ²⁷ K. Barrett, and R. Greene, (1995, October). <u>Logistics</u>. Financial World, vol.
 - 164(22), pp. 56-57.
 - ²⁸ Ibid, 57
- ²⁹ Roger Ford, (1995, December). <u>Privatizing Air Force Repair Depots and The Influence of SPC. IIE Solutions</u>, vol. 27(12), 00. 23-27.
 - 30 lbid, 24
 - ³¹ Ibid, 26
- ³² Anonymous States (1997, May). Adjutants or Accountants? <u>The Economist</u>, vol. 342(8015), pp. 23-24.
- ³³ Pat Towell, (1997, November). Bill Clears Despite Threat to Veto Over Depots Authorization Bill. Congressional Quarterly Weekly Report, vol. 55(44), pp. 2779.
- ³⁴ Col Steven J. Zamparelli, Contractors on the Battlefield: What Have We Signed Up For? <u>Air Force Journal of Logistics</u> 23, no. 3 (Fall 1999): 11.
- ³⁵ Eric A. Orsini and Lt Col Gary T. Bublitz, Contractors on the Battlefield: Risks on the Road Ahead? <u>Army Logistician</u> 31, no. 1 (January–February 1999); on-line, Internet, 25 July 2000, available from http://www.almc.army.mil/alog/JanFeb99/MS376.htm.
 - ³⁶ Katherine M. Peters, Civilians at War, <u>Government Executive</u>, July 1996, 27.
 - ³⁷ Zamparelli, 11.
 - ³⁸ Orsini and Bublitz.
 - ³⁹ Peters, 25.
 - ⁴⁰ Ibid, 24.
- ⁴¹ <u>Joint Publication(Pub)</u> 4-0, <u>Doctrine for Logistics Support of Joint Operations</u>, draft, October 1999, V-1.

- ⁴² Orsini and Bublitz.
- ⁴³ Peters, 24.
- ⁴⁴ Zamparelli, 11.
- ⁴⁵ George Cahlink, Contractors Win Kudos for Support in Kosovo Operation, <u>Federal Times</u>, 27 September 1999, 6.
 - ⁴⁶ Peters, 24.
 - ⁴⁷ Zamparelli, 11.
 - ⁴⁸ Field Manual 100-21, Contractors on the Battlefield, 26 March 2002, Appendix C
 - ⁴⁹ Orsini and Bublitz.
- ⁵⁰ David L. Young, Planning: The Key to Contractors on the Battlefield, <u>Army Logistician</u> 31, no. 3 (May–June 1999); on-line, Internet, 25 July 2000, available from http://www.almc.army.mil/alog/MayJun99/MS344.htm.
- ⁵¹ Major James E. Althouse, Contractors on the Battlefield: What Doctrine Says, and Doesn't Say, <u>Army Logistician</u> 30, no. 6 (November–December 1998); on-line, Internet, 25 July 2000, available from http://www.almc.army.mil/alog/NovDec98/MS323.htm.
 - ⁵² Zamparelli, 12.
 - ⁵³ Ibid, 10.
- ⁵⁴ George Cahlink, Army of Contractors, <u>Govexec.com</u> (February 01. 2002); on-line, Internet, 01 February 2002, available from http://www.govexec.com/features/2002/0202s5htm
 - ⁵⁵ Zamparelli, 9.
 - ⁵⁶ Zamparelli, 11.

BIBLIOGRAPHY

- Althouse, James E. Contractors on the Battlefield: What Doctrine Says, and Doesn't Say, <u>Army Logistician</u> 30, no. 6 (November–December 1998); on-line, Internet,
- Anonymous (1997, May). Adjutants or Accountants? The Economist, vol. 642(8015), pp. 23-24.
- Anonymous States (1993, October). Still Waiting for the Bang. <u>The Economist</u>, vol. 329(7831), pp. 69-70.
- Anonymous (1995, February). Cargo 54, Where are You? Just-in-Time Logistics. <u>The Economist</u>, vol. 334(7901), pp. 73-74.
- Barrett, K. and Greene, R. (1995, October). Logistics. Financial World, vol.164(22), pp. 56-57.
- Cahlink, George Contractors Win Kudos for Support in Kosovo Operation, <u>Federal Times</u>, 27 September 1999, 6.
- Cahlink, George "Army of Contractors," Govexec.com (February 01. 2002); on-line, Internet, 01 February 2002,
- Davies, John (1993, December). Pentagon Repair Work Going to Private Sector. <u>Journal of Commerce and Commercial</u>, vol. 398(28128), pp. 1B.
- Field Manual 100-21, "Contractors on the Battlefield," 26 March 2002
- Ford, Roger (1995, December). <u>Privatizing Air Force Repair Depots and The Influence of SPC.</u> <u>IIE Solutions</u>, vol. 27(12), 00. 23-27.
- Fuller, J., O'Conor, J., Rawlinson, R., and Murphy, K. (1993, May-June). Tailored Logistics: The Next Advantage. <u>Harvard Business Review</u>, vol. 71(3), pp. 87-98.
- <u>Joint Publication(Pub) 4-0</u>, Doctrine for Logistics Support of Joint Operations, draft, October 1999. V-1.
- Morrocco, John (1995, June). Merging Aviation Support Piques Pentagon Interest. <u>Aviation Week and Space Technology</u>, vol. 142(23), pp 43.
- Orsini, Eric A. and Bublitz, Gary T. Contractors on the Battlefield: Risks on the Road Ahead? <u>Army Logistician</u> 31, no. 1 (January–February 1999); on-line, Internet, 25 July 2000, available from http://www.almc.army.mil/alog/JanFeb99/MS376.htm.
- Peters, Kathleen M. "Civilians at War," Government Executive, July 1996, 27.
- Scheier, R., Anthes, G., and Alter, A. (1996, December). Year 2000 May AUSA U.S. Military. Computerworld, vol. 30(52), pp. 1-2.
- Towell, Pat (1997, November). Bill Clears Despite Threat to Veto Over Depots Authorization Bill. Congressional Quarterly Weekly Report, vol. 55(44), pp. 2779.
- Towell, Pat and Kehoe, Mark (1996, April). Plan to Privatize Depots' Work Faces Stiff Resistance on Hill. Congressional Quarterly Weekly Report, vol. 54(14), pp. 939-940.

- Young, David L. Planning: The Key to Contractors on the Battlefield, <u>Army Logistician</u> 31, no. 3 (May–June 1999); on-line, Internet, 25 July 2000, available from http://www.almc.army.mil/alog/MayJun99/MS344.htm.
- Zamparelli, Steven J. Contractors on the Battlefield: What Have We Signed Up For? <u>Air Force Journal of Logistics</u> 23, no. 3 (Fall 1999): 11.
- Zitner, Aaron (1997, January 7). U.S. Military Contractors Enjoying Surprising Growth. <u>Knight-Ridder/Tribune Business News</u>, pp.107B0974.